

Claims

1. Use of a coating composition comprising at least one polymeric micelle, wherein the polymeric micelle has a hydrophilic, neutral corona and a complex coacervate  
5 core, wherein the complex coacervate core is formed by charge complexation, for surface modification or surface treatment.
2. Use of a coating composition according to claim 1, wherein the surface modification or surface treatment is for rendering at least one surface of a device protein-  
10 resistant.
3. Use of a coating composition according to claim 1, wherein the surface modification or surface treatment is for preventing bacteria proliferation, disinfecting, suppressing odours, preventing malodour, or for providing easy-  
15 cleaning or soil-release properties.
4. Use of a coating composition according to any of the preceding claims, wherein the polymeric micelle comprises at least a first and a second polymer.
- 20 5. Use of a coating composition according to claim 4, wherein the first polymer and the second polymer are oppositely charged.
6. Use of a coating composition according to claim 4 or 5, wherein the first polymer is a block polymer with an ionic block comprising at least 6 chargeable groups.  
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7. Use of a coating composition according to claim 6, wherein the ionic block is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
- 30 8. Use of a coating composition according to any of claims 4 - 7, wherein the first polymer comprises at least a hydrophilic and neutral block.

9. Use of a coating composition according to claim 8, wherein the hydrophilic and neutral block is a polyethylene glycol or a polyacrylamide, or a combination thereof.
- 5 10. Use of a coating composition according to any of claims 4 - 9, wherein the second polymer is a homopolymer, a random copolymer, a block polymer, a natural polymer, or a derivative thereof.
- 10 11. Use of a coating composition according to claim 10, wherein the homopolymer is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
12. Use of a coating composition according to any of claims 1-2 or 4-11, for rendering at least one surface of a device protein-resistant, for the reduction or prevention of protein adsorption and/or anti-fouling.
- 15 13. Use of a coating composition according to any of claims 1-2 or 4-12 for the coating of a biomedical device.
- 20 14. Use of a coating composition according to any of the preceding claims, wherein the coating composition is a paint or a sealant, preferably a boat paint.
- 25 15. Use of a coating composition according to any of claims 1 or 3-11, for preventing bacteria proliferation, disinfecting, suppressing odours, preventing malodour, or for providing easy-cleaning or soil-release properties, wherein the coating composition is a home-care or fabric-care or institutional-cleaning or industrial-cleaning composition.
- 30 16. Process for modifying a surface or treating a surface, said process comprising:  
(i) mixing at least a first and a second polymer in such amounts that the resulting mixture has a fraction of the total number of cationic polymeric groups over the total number of charged groups in the range of 0.2 to 0.8, wherein the first and

the second polymer are oppositely charged and wherein the first polymer is a block polymer comprising at least a hydrophilic and neutral block; and  
(ii) bringing the resulting mixture under aqueous conditions in contact with the surface,

5 wherein the salt concentration in both steps is less than 1 M.

17. Process according to claim 16, wherein the surface is the surface of a device, and the process is a process for coating a device.

10 18. Process according to any of claim 16 or 17, wherein the first polymer is a block polymer with an ionic block comprising at least 6 chargeable groups.

19. Process according to claim 18, wherein the ionic block is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and  
15 poly(N-alkyl-4-vinylpyridinium).

20. Process according to any of claims 16 - 19, wherein the hydrophilic and neutral block is a polyethylene glycol, a polyglyceryl methacrylate or a polyacrylamide, or a combination thereof.

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21. Process according to any of claims 16 - 20, wherein the second polymer is a homopolymer a random copolymer, a block polymer, a natural polymer, or a derivative thereof.

25 22. Process according to claim 21, wherein the homopolymer is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).

23. Modified surface or treated surface obtainable by the process according to any of  
30 claims 16 - 22.

24. Modified surface or treated surface comprising a coated surface, wherein the coated surface comprises at least one polymeric micelle immobilized to the surface, wherein the polymeric micelle has a charged core and a hydrophilic, neutral corona.
- 5 25. Modified surface or treated surface according to claim 24, wherein the surface is a surface of a device.
26. Modified surface or treated surface according to claims 24 or 25, wherein the polymeric micelle comprises a first and a second polymer.
- 10 27. Modified surface or treated surface according to claim 26, wherein the first polymer and the second polymer are oppositely charged.
28. Modified surface or treated surface according to claims 26 or 27, wherein the first  
15 polymer is a block polymer with an ionic block comprising at least 6 chargeable groups.
29. Modified surface or treated surface according to claim 28, wherein the ionic  
20 block is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
30. Modified surface or treated surface according to any of claims 26 - 29, wherein the first polymer comprises at least a hydrophilic and neutral block.
- 25 31. Modified surface or treated surface according to claim 30, wherein the hydrophilic and neutral block is a polyethylene glycol, a polyglycerylmethacrylate or a polyacrylamide, or a combination thereof.
32. Modified surface or treated surface according to any of claims 26 - 31, wherein  
30 the second polymer is a homopolymer, a random copolymer, a block polymer, a natural polymer, or a derivative thereof.

33. Modified surface or treated surface according to claim 32, wherein the homopolymer is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
- 5 34. Modified surface or treated surface according to any of claims 23-33, in which at least one polymeric micelle is physically bonded to the surface.